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2008 BOBCAT HUNTER AND TRAPPER HARVEST IN MICHIGAN

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ABSTRACT

A survey was completed to determine the number of people hunting and trapping bobcats in Michigan, the number of days spent afield (effort), and the number of bobcats registered. In 2008, 4,061 people obtained a bobcat harvest tag valid for the hunting and trapping seasons. About 58% (2,358) of these tag-holders attempted to hunt or trap bobcats, and 25% of these furtakers registered at least one bobcat. An estimated 1,569 people attempted to hunt bobcats and spent 16,972 days hunting and registered 306 bobcats. Nearly 1,001 people attempted to trap bobcats and spent nearly 21,978 days trapping and registered 401 bobcats. The number of bobcats registered in 2008 by hunters and trappers did not change significantly from 2007.

INTRODUCTION

The Natural Resources Commission (NRC) and Michigan Department of Natural Resources and Environment (DNRE) have the authority and responsibility to protect and manage the wildlife resources of the state of Michigan. Harvest surveys are one of the management tools used to accomplish this statutory responsibility. Estimating hunter participation, harvest, and hunting effort are the primary objectives of these surveys. Estimates derived from harvest surveys, as well as information from mandatory registration reports, field surveys, and population modeling are used to monitor bobcat (*Lynx rufus*) populations and establish harvest regulations.

During 2008, bobcats could be harvested during both hunting and trapping seasons (Tables 1 and 2). In order to hunt or trap bobcats, furtakers were required to obtain a free bobcat harvest tag, in addition to a fur harvester license. In the Upper Peninsula (UP), except Drummond Island, furtakers could legally take and register two bobcats in the hunting and



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trapping seasons combined. Only one bobcat could be taken from Drummond Island (Unit B), and only one bobcat could be legally taken and registered in units C or D combined (Lower Peninsula [LP]) (Figure 1). Successful furtakers were required to immediately attach the harvest tag to the bobcat and were required to register bobcats within 10 days of the end of the season for the unit in which the bobcat was taken. Furtakers were not allowed to keep bobcats that were beyond the legal limit of bobcats per person (incidental catches). Furtakers were required to bring incidental catches to a registration station if they could not be released alive. Although all furtakers harvesting a bobcat were required to present their animals at a DNRE office for registration, this survey does not present information collected from registered bobcats.

Prior to 2004, only hunters were allowed to harvest a bobcat in the LP, as bobcat trapping was restricted to the UP (Tables 1 and 2). During 2004, 2005, and 2008, an 11-day bobcat trapping season (December 10-20) was held on private lands in portions of the LP.

In 2008, trappers could use foothold and body-gripping traps (i.e., conibears) to capture bobcats in the UP and foothold traps only in the LP. Live traps were also legal if set within 150 yards of a residence or farm building. Bobcat trapping was permitted on both public and private lands. Most hunters traditionally used calls or dogs to take bobcats (Frawley and Etter 2008).

METHODS

The Wildlife Division provided all furtakers the option to report voluntarily information about their hunting and trapping activity via the internet. This option was advertised on the DNRE website and an email message was sent to bobcat harvest tag holders that had provided an email address to the DNRE (639 furtakers). Furtakers reported whether they attempted to hunt or trap a bobcat, number of days spent afield, and number of bobcats they registered. Hunters were also asked to report their hunting method (e.g., dogs, calls) and the number of bobcats that were within range to take but they chose not to harvest. Hunters that used dogs were asked to report who owned the dogs, number of occasions their dogs chased a bobcat, and whether they hired a guide. Trappers were asked to report the number of bobcats caught in traps and the number of bobcats released alive. Trappers also were asked to report the types of traps used, their preferred trap type, and whether they caught any bobcats in a trap set for another animal. All furtakers were asked the ownership of lands where they pursued bobcats and their opinion of the status of the bobcat population in the county where they preferred to hunt or trap. Following the 2008 bobcat hunting and trapping season, a questionnaire was sent to all harvest tag holders that had not already voluntarily reported harvest information via the internet (3,955 tag holders). Furtakers receiving the questionnaire in the mail were asked the same questions as furtakers responding on the internet.

Questionnaires were mailed initially during early April 2009, and nonrespondents were mailed up to two follow-up questionnaires. Although 3,955 people were sent the questionnaire, 65 surveys were undeliverable, resulting in an adjusted sample size of 3,890. Questionnaires were returned by 2,426 people, yielding a 62% adjusted response rate. In addition, 106 people voluntarily reported information via the internet before questionnaires were mailed.

Although all harvest tag holders had an opportunity to report information about their hunting

and trapping activity, not everybody reported. To extrapolate from the tag holders that completed their questionnaire to all people obtaining harvest tags, estimates were calculated using a stratified random sampling design that included two strata (Cochran 1977). Furtakers were stratified based on whether they had voluntarily reported their trapping activity on the internet. The statewide estimate of the mean number of days required to harvest a bobcat was calculated using a different ratio of effort to harvest for each stratum (i.e., separate ratio estimator). The number of animals registered for each stratum was used as an auxiliary variate to improve the precision of ratio estimates. The 95% confidence limit (CL) was also calculated for all estimates. This CL can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies the true value would be within this interval 95 times out of 100. Estimates were not adjusted for possible response or nonresponse bias.

Statistical tests are used routinely to determine the likelihood the differences among estimates are larger than expected by chance alone. The overlap of 95% confidence intervals was used to determine whether estimates differed. Non-overlapping 95% confidence intervals was equivalent to stating the difference between the means was larger than would be expected 995 out of 1,000 times ($P < 0.005$), if the study had been repeated (Payton et al. 2003).

RESULTS

Hunting and Trapping Combined

In 2008, 4,061 people obtained a bobcat harvest tag valid for the bobcat hunting and trapping seasons. About $58 \pm 1\%$ (2,358) of these tag holders attempted to hunt or trap bobcats (Table 3). Furthermore, about $5 \pm 1\%$ (212 ± 22) of the tag holders attempted both hunting and trapping bobcats.

Furtakers spent 38,950 days afield ($\bar{x} = 16.5 \pm 0.7$ days/furtaker) and registered 707 bobcats ($\bar{x} = 0.30 \pm 0.02$ bobcats/furtaker). Furtakers spent about 26,741 days afield pursuing bobcats in the UP and 11,802 days in the LP (Table 3). About 25% of the furtakers registered at least one bobcat (Table 4). Nearly $20 \pm 1\%$ of the furtakers registered only one bobcat and $5 \pm 1\%$ registered two bobcats. About 29% of the furtakers in the UP registered at least one bobcat (Table 4). Nearly $20 \pm 2\%$ of the UP furtakers registered only one bobcat and $9 \pm 1\%$ registered two bobcats. An estimated 20% of furtakers in the LP registered a bobcat.

The number of furtakers (-4%) and their effort (-11%) declined significantly statewide between 2007 and 2008; however, the number of bobcat taken between 2007 and 2008 was not significantly different (Tables 3-4, Figure 2). Most changes within management units between 2007 and 2008 were not significantly different except in UP when furtaker numbers (-9%) and their effort (-18%) declined significantly. In contrast, furtaker effort increased 26% in Unit D between 2007 and 2008.

Counties with 150 or more furtakers that pursued bobcats included Marquette and Delta (Table 5). Counties with 40 or more registered bobcats taken within that county included Gogebic, Delta, and Iron.

About $30 \pm 1\%$ of bobcat tag-holders reported the bobcat population was stable in the county they preferred to hunt or trap bobcats, which was similar to the 2007 estimate (Figures 3-5). About $12 \pm 1\%$ reported bobcat numbers were improving and $14 \pm 1\%$ reported fewer bobcats. Nearly $35 \pm 1\%$ of the tag-holders were uncertain of the status of bobcats.

Hunting

About $39 \pm 1\%$ (1,569 hunters) of the tag-holders attempted to hunt bobcats during the 2008 seasons (Table 6). About 590 furtakers hunted in the UP and 995 hunted in the LP. These hunters had hunted bobcats an average of eight years (± 0.5 year). Bobcat hunters most frequently hunted on public land ($69 \pm 2\%$). About $41 \pm 2\%$ of the hunters hunted on private land not owned by themselves or their family, while $36 \pm 2\%$ hunted bobcats on their own land or land owned by their family. Nearly $31 \pm 2\%$ of the hunters hunted on public land only, $31 \pm 2\%$ hunted on private land only, and $38 \pm 2\%$ hunted on both public and private lands.

Hunters spent about 16,972 days afield hunting bobcats ($\bar{x} = 10.8 \pm 0.5$ days/hunter) and registered an estimated 306 bobcats ($\bar{x} = 0.19 \pm 0.02$ bobcats/hunter, Table 7). Hunters spent about 6,957 days afield hunting bobcats in the UP and 9,706 days hunting bobcats in the LP. The estimated number of days of effort per bobcat registered by hunters statewide was 55.6 days in 2008.

Hunters registered about 43% of the bobcats registered by furtakers (Figure 6). About 18% of bobcat hunters harvested at least one bobcat (Table 7). Nearly $17 \pm 1\%$ of hunters registered only one bobcat and $1 \pm 0.5\%$ registered two bobcats. An estimated 17% of the hunters in the UP registered at least one bobcat; $13 \pm 2\%$ of UP hunters registered one bobcat and $3 \pm 1\%$ registered two bobcats. An estimated 17% of hunters in the LP registered a bobcat.

Counties with 90 or more hunters pursuing bobcats included Roscommon and Presque Isle (Table 8). Counties with more than 20 hunter-registered bobcats originating from that county included Alcona, Menominee, and Gogebic.

The number of hunters statewide (-13%) and their hunting effort (-11%) declined significantly between 2007 and 2008 (Table 6). The number of hunters declined significantly in both the UP (-13%) and LP (-14%) between 2007 and 2008. Hunting effort, bobcats passed by hunters, and bobcats registered by hunters did not change significantly statewide between 2007 and 2008. The number of days of effort per bobcat registered by hunters statewide (55.6) was not statistically different from estimates for 2007 (Table 9, Figure 7). Although effort per registered bobcat did not change in the LP, effort per registered bobcat decreased significantly (-15%) in Unit C and increased significantly (40%) in Unit D in the LP.

Hunters most frequently used calls ($56 \pm 2\%$) or dogs ($43 \pm 2\%$) to hunt bobcats (Table 10). The estimated number of people hunting bobcats with dogs statewide significantly declined 11% between 2007 and 2008 (Table 11). Hunting effort, bobcats passed by hunters, and bobcats registered by hunters using dogs did not change significantly statewide between 2007 and 2008 (Tables 11 and 12). The estimated number of people hunting bobcats with calls statewide declined significantly (-13%) between 2007 and 2008 (Table 13). Among hunters using calls, the number of bobcats registered and the proportion of hunters registering a

bobcat declined significantly among hunters in the LP between 2007 and 2008, although these estimates were not significantly different statewide (Table 14).

Bobcat hunters using dogs participated in an estimated $3,409 \pm 324$ chases of bobcats, which was a significant 19% decline from 2007 (Figure 8). About $31 \pm 2\%$ of the bobcat hunters had an opportunity to harvest a bobcat but chose not to harvest the bobcat. Thus, an estimated 479 ± 32 hunters chose not to harvest bobcats on $1,438 \pm 146$ occasions (Figure 8). Among those hunters that passed up an opportunity to take a bobcat, $39 \pm 3\%$ passed one bobcat, $26 \pm 3\%$ passed two bobcats, $12 \pm 2\%$ passed three bobcats, $6 \pm 2\%$ passed four bobcats, and $16 \pm 3\%$ passed five or more bobcats. The estimate of the number of bobcats passed by hunters should be viewed cautiously because hunting partners may have reported passing the same bobcat; thus, the estimate will be inflated by an unknown amount. Few bobcat hunters ($10 \pm 2\%$) that hunted with dogs hired a guide service to assist with their hunting (66 ± 12 hunters).

About $32 \pm 2\%$ of bobcat hunters reported the bobcat population was stable in the county they preferred to hunt bobcats, which was similar to the 2007 estimate (Figures 3-5). About $11 \pm 1\%$ reported bobcat numbers were increasing and $22 \pm 2\%$ reported fewer bobcats. Nearly $29 \pm 2\%$ of bobcat hunters were uncertain of the status of bobcats.

Trapping

An estimated $25 \pm 1\%$ (1,001 trappers) of the tag-holders trapped bobcats during the 2008 season (Table 15), and these trappers had trapped bobcats an average of nine years (± 1 year). Roughly equal proportions of trappers trapped bobcats on private land owned by themselves or their family ($50 \pm 2\%$), private lands not owned by themselves or their family ($38 \pm 2\%$), and public land ($40 \pm 2\%$). About $59 \pm 2\%$ trapped on private land only, $18 \pm 2\%$ of the trappers trapped on public land only, and $23 \pm 2\%$ trapped on both public and private lands.

Trappers spent about 21,978 days afield trapping bobcats ($\bar{x} = 22.0 \pm 1.3$ days/trapper), caught 596 bobcats, registered 401 bobcats ($\bar{x} = 0.40 \pm 0.03$ bobcats/trapper), and released 195 bobcats from their traps during the 2008 season (Table 15, Figure 9).

The number of trappers (18%), number of bobcats captured (50%), number of bobcats released alive (152%), and number of bobcats registered (25%) by trappers increased significantly statewide between 2007 and 2008 (Table 16). The number of days devoted to trapping and proportion of trappers catching and registering a bobcat did not change significantly between 2007 and 2008 (Tables 15 and 17). The estimated number of days of effort per bobcat registered by trappers statewide was 55.3 days in 2008 and was significantly less (29% decrease) than in 2007 (Table 18, Figure 7).

Trappers registered about 57% of the bobcats registered by furtakers (Figure 6). About 36% of bobcat trappers captured at least one bobcat and 31% registered at least one bobcat (Table 17). Nearly $22 \pm 2\%$ of the trappers registered only one bobcat and $9 \pm 1\%$ registered two bobcats. Nearly $10 \pm 1\%$ of the bobcat trappers caught bobcats that they released. They

released 195 bobcats from their traps. About $9 \pm 1\%$ of the bobcat trappers caught a bobcat in a trap set for another furbearer (Figure 9).

Counties with 70 or more trappers pursuing bobcats included Marquette, Delta, and Iron (Table 19). Counties with more than 30 registered bobcats originating from that county included Gogebic, Delta, and Iron.

Most trappers used foothold traps (78%), while 45% of the trappers used body gripping traps (i.e., conibears) (Table 20). Most trappers preferred to use foothold traps (47%), while 30% preferred to use conibears (Table 21). An estimated 17% of trappers did not have a preferred trap type.

About $40 \pm 2\%$ of bobcat trappers reported the bobcat population was stable in the county they preferred to trap bobcats (Figures 3-5). About $18 \pm 2\%$ reported bobcat numbers were increasing and $16 \pm 2\%$ reported fewer bobcats. Nearly $22 \pm 2\%$ of bobcat trappers were uncertain of the status of bobcats.

DISCUSSION

Many factors influence bobcat harvest trends including furtaker numbers, bobcat numbers, harvest regulations, habitat conditions, weather, and fur prices; thus, any interpretations of trends should be viewed cautiously. Moreover, estimates of events that occur infrequently (e.g., harvesting a bobcat) are difficult to estimate precisely using common sampling designs (Cochran 1977). Relatively few furtakers harvest bobcat; thus, estimates from the statewide fur harvesters survey from previous years often have been imprecise (Frawley 2001). Beginning with the 2004-2005 bobcat season, however, all licensed furtakers attempting to harvest a bobcat in Michigan were required to obtain a free bobcat harvest tag from the DNRE. Beginning with the 2004 season, the DNRE has used these lists of tag holders to design surveys that result in more precise estimates.

Using indices to monitor wildlife populations is standard practice in wildlife management, and most states use a variety of indices for evaluating furbearer populations. The DNRE considers the logistics of data collection, data reliability, ability of the index to detect population change, and cost when selecting an index. Historical, long-term data sets are also valuable for evaluating changes in harvest regulations over time. The DNRE uses several indices to monitor the bobcat populations and to recommend to the NRC changes in bobcat harvest regulations. Each of these indices measures an attribute of the bobcat population and independently can be used to monitor changes in population status. Use of multiple indices strengthens the assessment of population status.

The number of furtakers pursuing bobcats in Michigan declined 21% from 2003 to 2008 (Figure 2). During this period, the number of days spent pursuing bobcats also declined 24%, and bobcat harvest statewide declined 41%.

Although statewide the number of furtakers pursuing bobcats declined during recent years, the number of bobcat trappers increased between 2007 and 2008. This increase can be partly attributed to allowing trapping in the LP in 2008 (Table 2).

Since 2003, the days of effort required by trappers in the UP to harvest a bobcat has increased significantly from a mean of 34 days in 2003 to nearly 60 days in 2008 (Figure 7). Likewise, hunters in the UP have expended increasing effort per registered bobcat since 2005, although the trend is not significant during the entire period (2003-2008). The number of days required by LP hunters to harvest a bobcat has ranged between 45-70 days during 2003-2008, and it has not changed significantly since 2003.

About 25% of bobcat hunters and trappers combined registered at least one bobcat in Michigan during the 2008 seasons, while 25-28% ($\bar{x} = 25\%$) of bobcat hunters and trappers harvested at least one bobcat in Michigan during 2006-2008 (Frawley and Etter 2007, 2008). Success rates in Michigan during the last three years have been lower than success rates of hunters and trappers in Wisconsin (41-71% [$\bar{x} = 57\%$]) during 2006-2008, Kitchell and Olson 2007; Dhuey and Olson 2008, 2009) and in Pennsylvania (39-42% [$\bar{x} = 40\%$]) during 2006-2008, Lovallo 2009). Differences between states may reflect differences in bobcat numbers and harvest regulations.

Slightly more furtakers (hunters and trappers combined) pursued bobcats in the UP than the LP; however, furtakers expended over two times as much effort in the UP as the LP (Table 3). The proportion of furtakers registering a bobcat also was higher in the UP than the LP (29% versus 20%). These differences between regions partly reflect differences in regulations as furtakers could legally harvest only one bobcat from the LP, while two bobcats could be taken from the UP. Moreover, seasons were longer in the UP than in the LP (Tables 1 and 2).

Nearly 70% more people attempted to hunt bobcats in the LP than in the UP in 2008 (Table 6), although the season is shorter in the LP (Tables 1 and 2). Hunters in the LP spent nearly 40% more days hunting bobcats than their counterparts in the UP. Hunters in the LP had more occasions where they chose not to harvest a bobcat than hunters in the UP; however, the proportion of hunters registering at least one bobcat was similar between the LP and UP.

Although there were 50% more bobcat hunters than trappers in Michigan during the 2008 seasons, trappers registered more bobcats than hunters. Bobcat hunters devoted an average of 56 days of effort per bobcat registered, while trappers spent about 55 days of effort per bobcat registered.

Hunters that used dogs were more successful than hunters using calls (24% of hunters using dogs registered a bobcat versus 12% of hunters using calls, Table 10). Lovallo (2009) reported a mean success rate of 39% for hunters using dogs in Pennsylvania during 2000-2008, while the mean success rate for hunters using calls in Pennsylvania was 14%. Kitchell and Olson (2005, 2006, 2007) and Dhuey and Olson (2008, 2009) reported 42-79% ($\bar{x} = 59\%$) of hunters using dogs registered a bobcat in Wisconsin during 2004-2006, while 18-48% ($\bar{x} = 28\%$) of hunters not using dogs registered a bobcat.

About 11% of the bobcat trappers in Michigan released a bobcat from their traps set during the 2008 season, which was similar to the 2007 estimate (Frawley and Etter 2008). In comparison, 7-12% ($\bar{x} = 10\%$) of Wisconsin bobcat trappers released a bobcat from their traps during 2006-2008 in Wisconsin (Kitchell and Olson 2007, Dhuey and Olson 2008, 2009).

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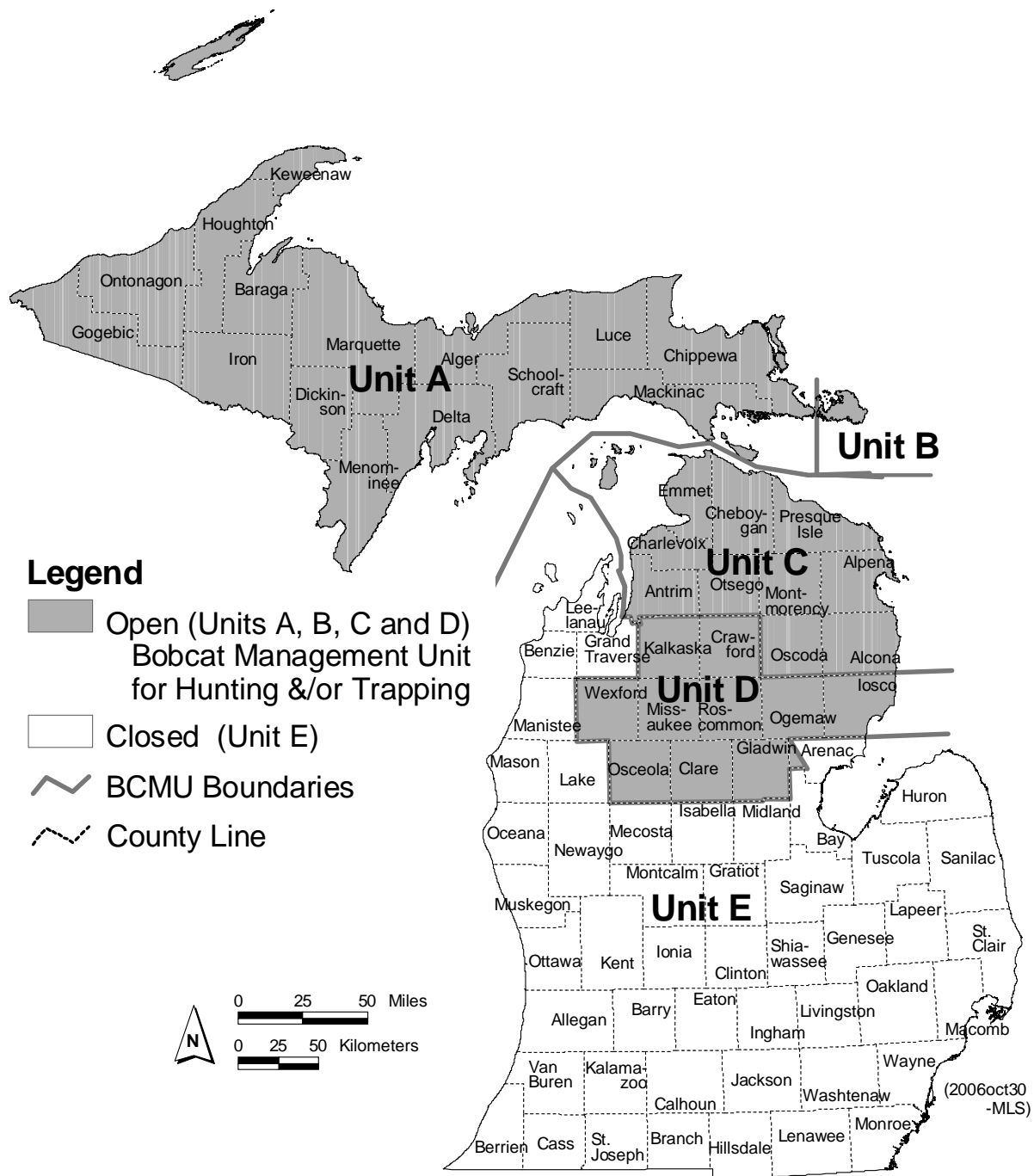
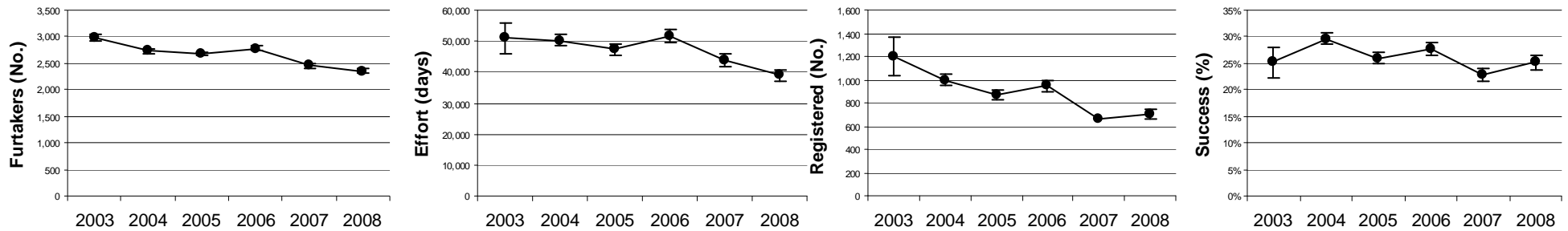
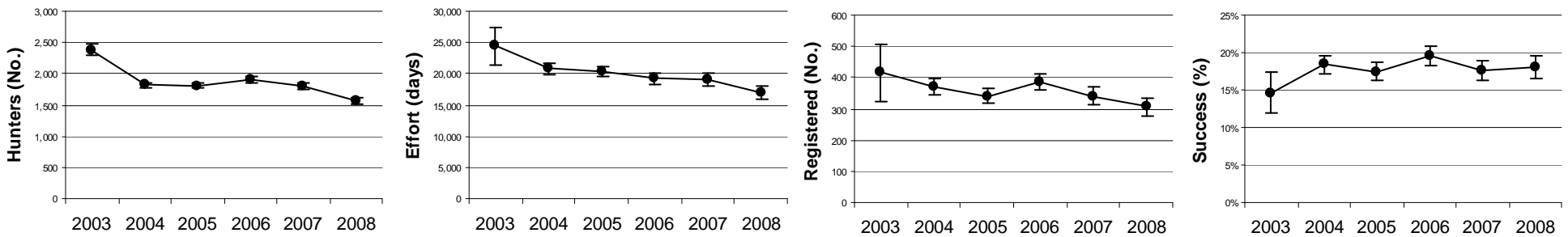


Figure 1. Bobcat Management Units in Michigan for the 2008 hunting and trapping seasons.

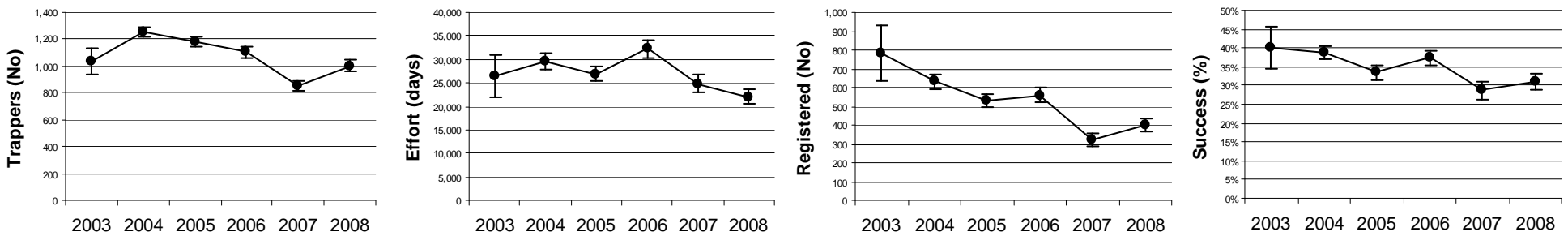
Hunting and trapping combined



Hunting



Trapping



Year

Figure 2. Number of furtakers pursuing bobcats, number of days of effort, number of bobcats registered, and proportion of furtakers registering a bobcat in Michigan during 2003-2008, summarized by method of take. Number of hunters and trappers does not add up to statewide total of hunters and trappers combined because a person could both hunt and trap bobcats. Vertical bars represent the 95% CL.

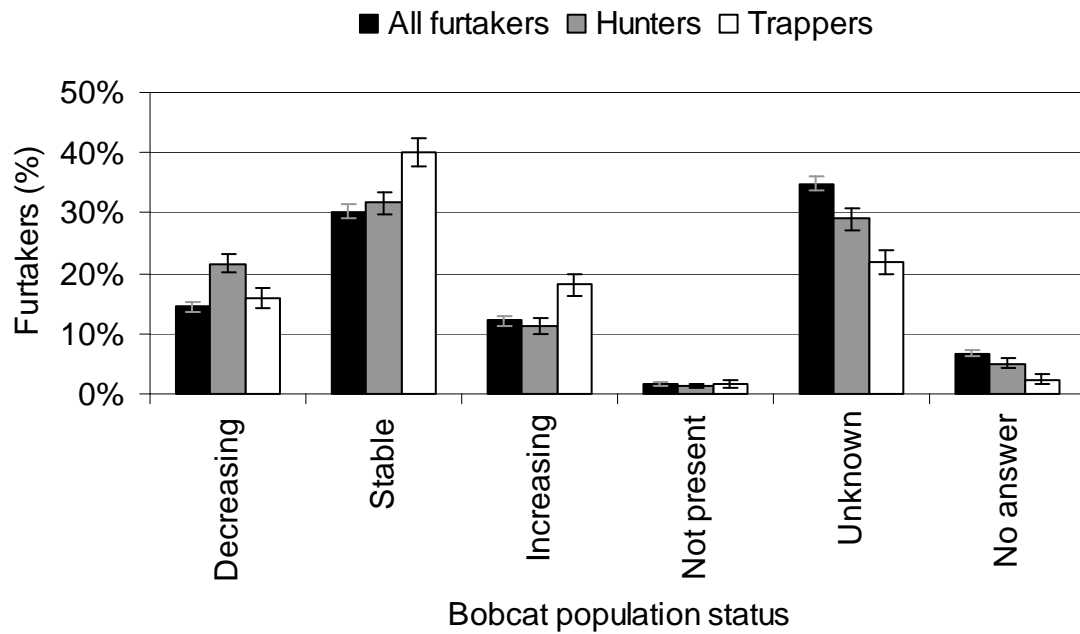


Figure 3. Status of bobcats in Michigan during 2008 as described by bobcat hunters and trappers. Vertical bars represent the 95% CL.

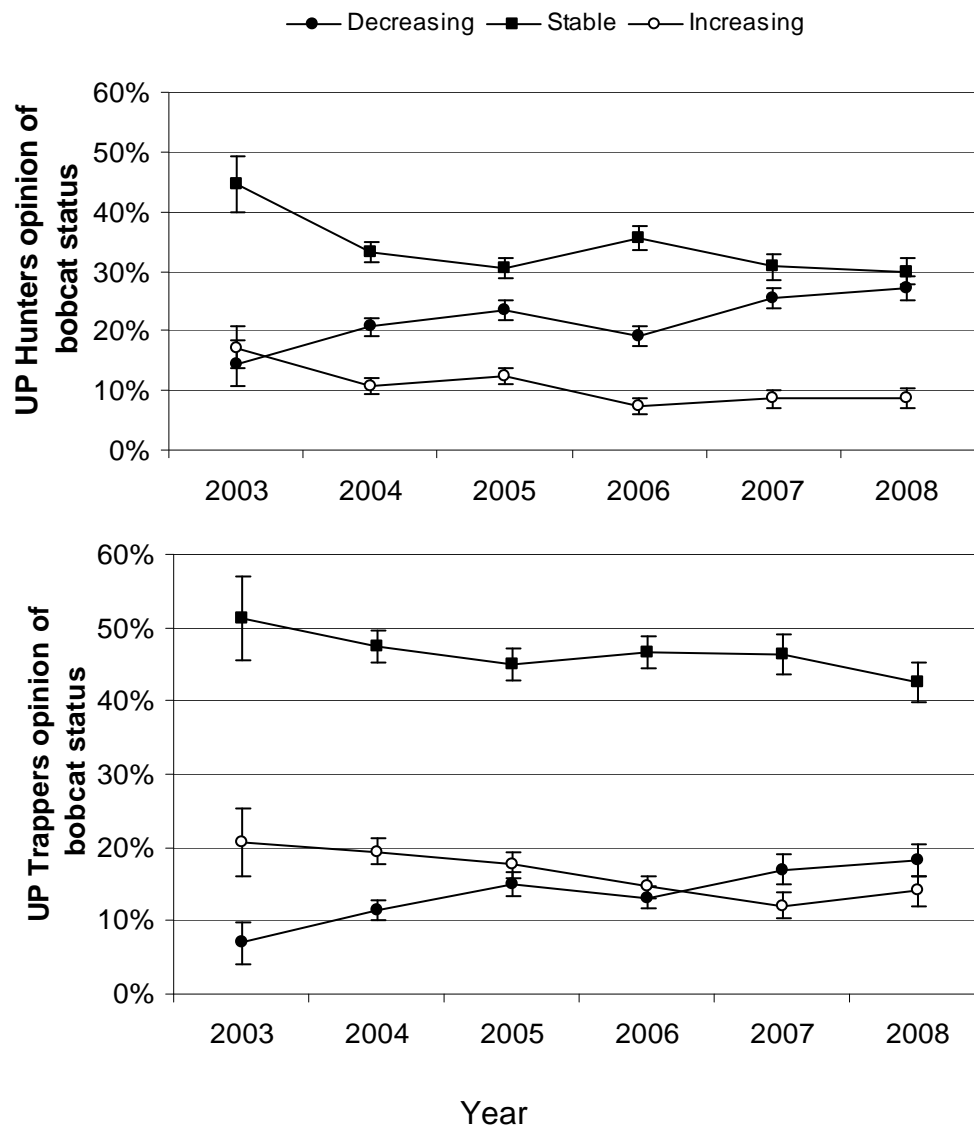


Figure 4. Status of bobcat population in Michigan as described by bobcat hunters and trappers in the Upper Peninsula, 2003-2008. Vertical bars represent the 95% CL.

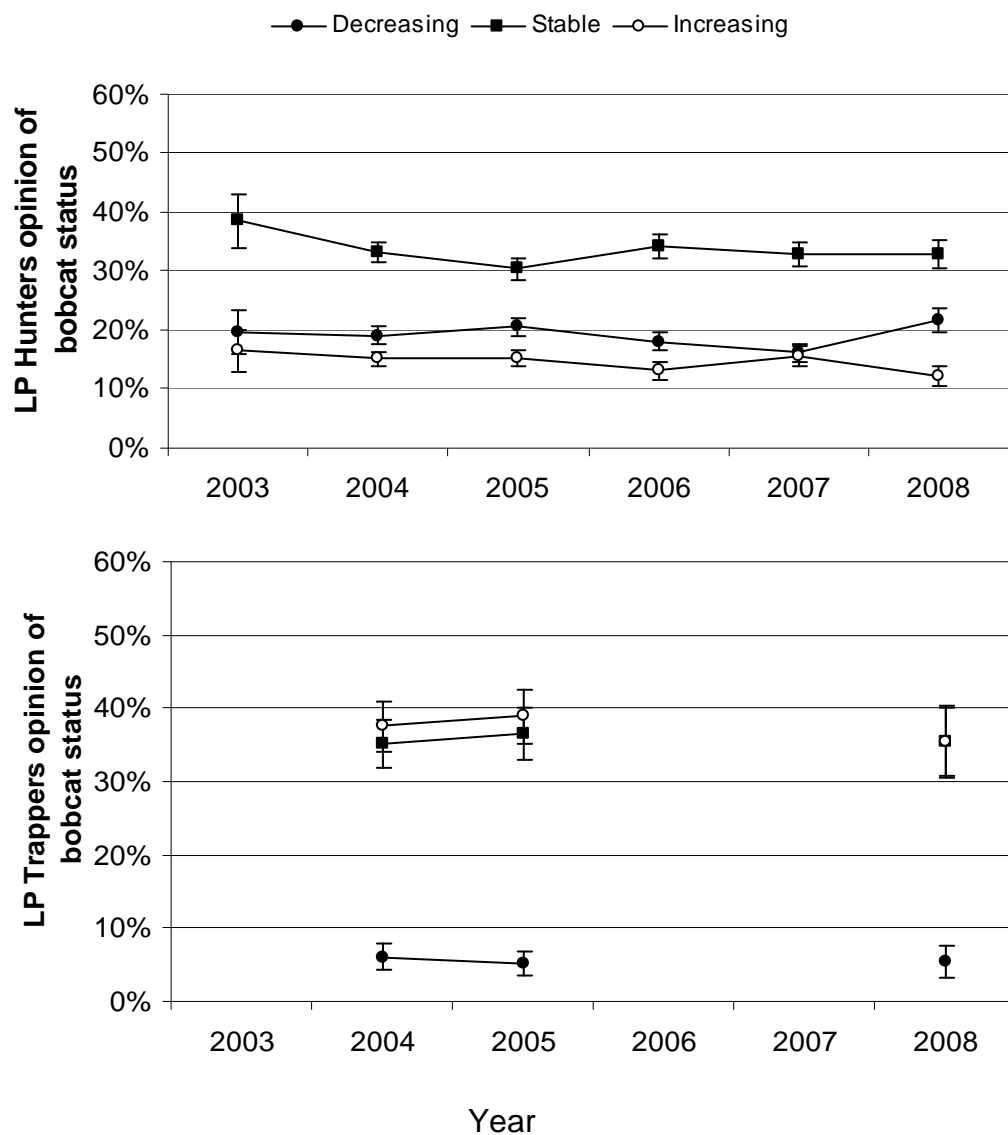


Figure 5. Status of bobcat population in Michigan as described by bobcat hunters and trappers in the Lower Peninsula, 2003-2008. Vertical bars represent the 95% CL.

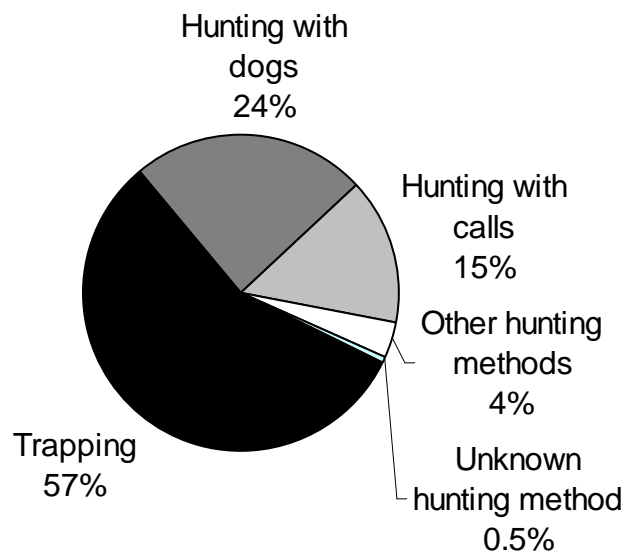


Figure 6. Proportion of bobcats registered in Michigan during 2008, summarized by method of take.

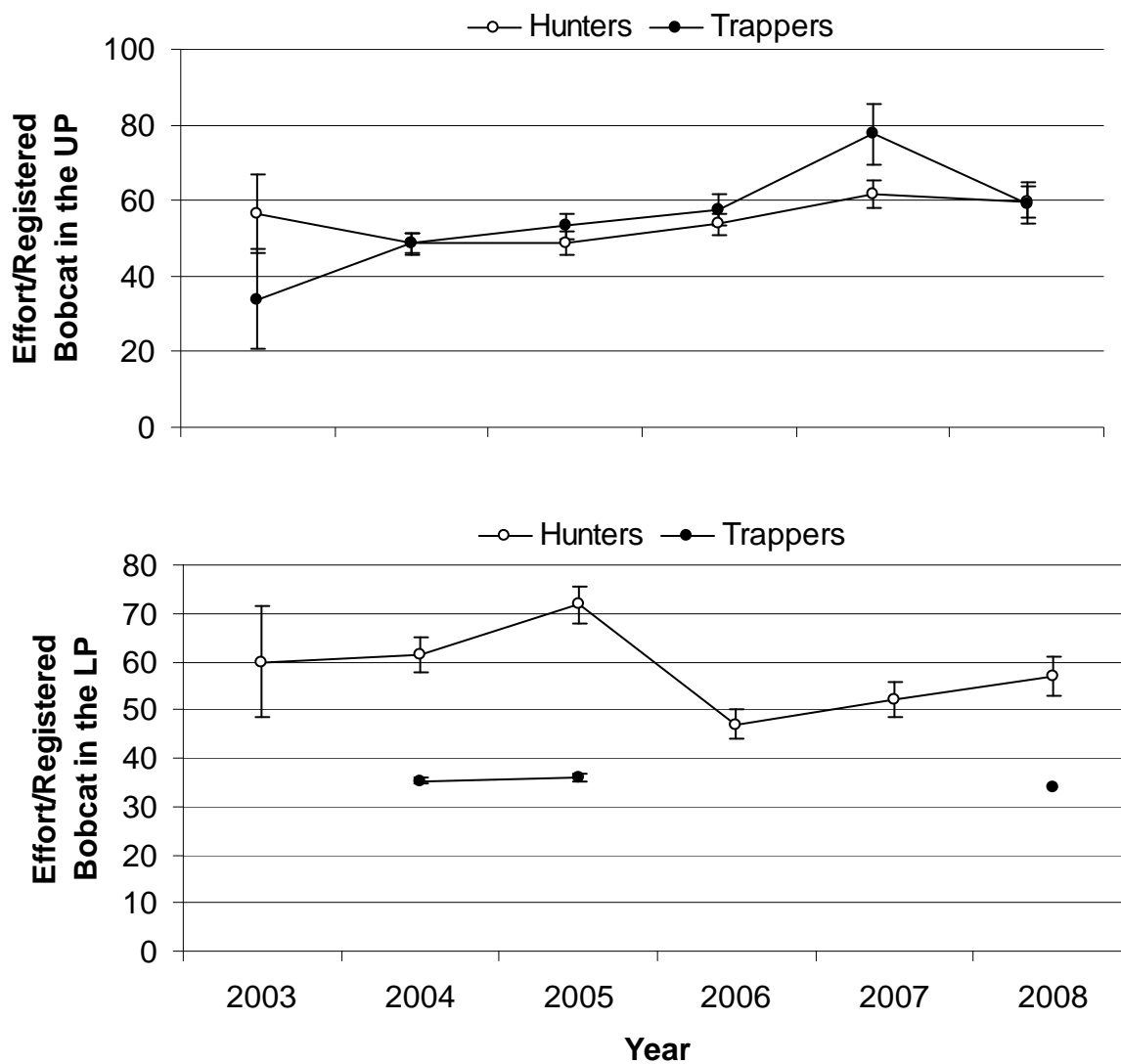


Figure 7. Estimated number of days of effort per bobcat registered in Michigan by hunters and trappers for the 2003-2008 seasons, summarized by region. Vertical error bars represent the 95% CL. Bobcat could be harvested by trappers in portions of the LP during 2004, 2005, and 2008 only.

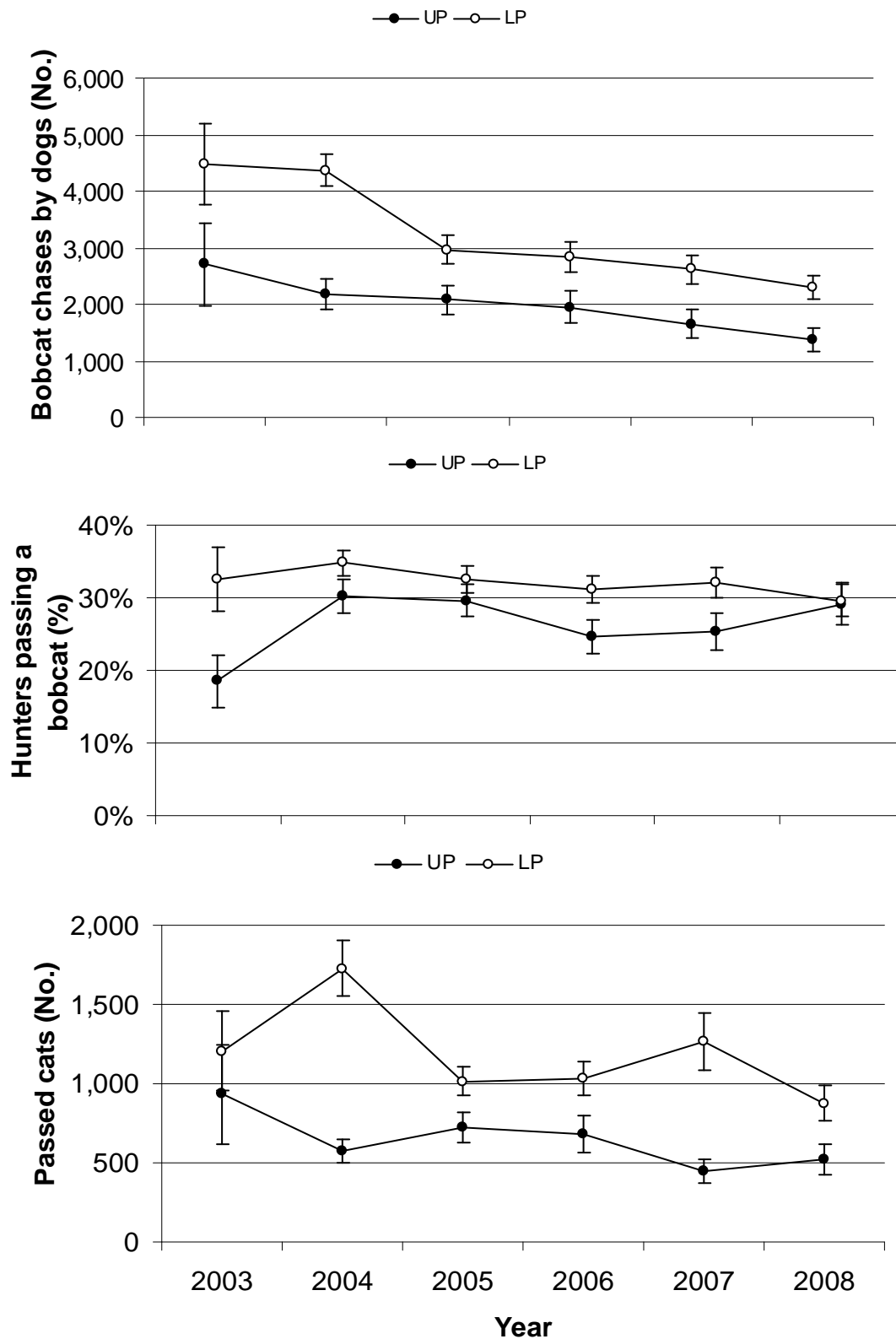


Figure 8. Number of bobcat chases by dogs, proportion of hunters passing a bobcat (bobcats within range or treed but not harvested), and number of bobcats passed by hunters (all types of hunting) in Michigan, 2003-2008. Vertical bars represent the 95% CL.

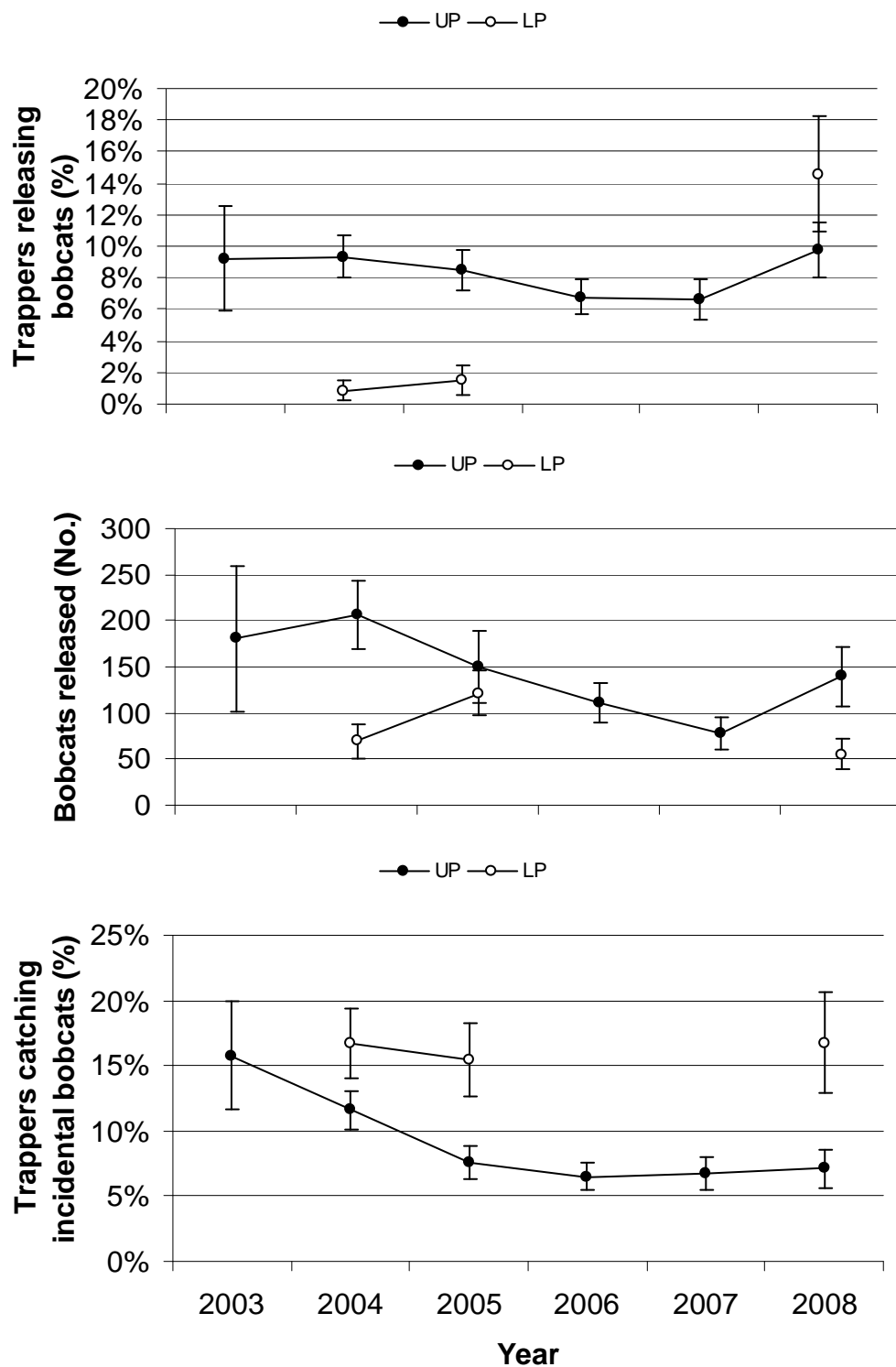


Figure 9. Number of trappers releasing bobcats from their traps, number of bobcats released from traps, and proportion of trappers that caught a bobcat in a trap set for another species (incidental catch) in Michigan, 2003-2008. Trapping of bobcat in the LP was permitted in 2004, 2005 and 2008, but not permitted in 2003, 2006, and 2007. Vertical bars represent the 95% CL.

Table 1. Resident bobcat hunting season dates and seasonal bag limits in Michigan, 1985-2008.

Year	State-wide bag limit ^a	Hunting season zone						
		Upper Peninsula ^b		Drummond Island		Lower Peninsula		
		Season dates	Bag limit ^a	Season dates	Bag limit ^a	North ^c	South ^d	Bag limit ^a
1985	None	10/25-3/1	None	Closed	0	1/1-3/1	NA	None
1986	None	10/25-3/1	None	Closed	0	1/1-3/1	NA	None
1987	None	10/25-3/1	None	Closed	0	1/1-3/1	NA	None
1988	None	10/25-3/1	None	Closed	0	1/1-3/1	NA	None
1989	1	10/25-3/1	1	Closed	0	1/1-3/1	1/1-2/1	1
1990	1	10/25-3/1	1	Closed	0	1/1-3/1	1/1-2/1	1
1991	1	10/25-3/1	1	Closed	0	1/1-3/1	1/15-2/16	1
1992	1	10/25-3/1	1	Closed	0	1/1-3/1	1/15-2/16	1
1993	1	10/25-3/1	1	Closed	0	1/1-3/1	1/15-2/16	1
1994	2	10/25-3/1	2	Closed	0	1/1-3/1	1/15-2/16	1
1995	2	10/25-3/1	2	10/25-3/1	1	1/1-3/1	1/15-2/16	1
1996	3	10/25-3/1	3	10/25-3/1	1	1/1-3/1	1/15-2/16	1
1997	3	10/25-3/1	3	10/25-3/1	1	1/1-3/1	1/15-2/16	1
1998	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	1
1999	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	1
2000	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	1
2001	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	1
2002	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	1
2003	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	1
2004	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	1
2005	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	1
2006	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	1
2007	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	1
2008	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	1

^aThe statewide bag limit was the maximum number of bobcats that could be taken per person from all zones (hunting and trapping combined), and the bag limit for each zone was the maximum number that could be taken within a zone (hunting and trapping combined).

^bExcluded Bois Blanc Island during 1985-1988 and Drummond Island in the Upper Peninsula.

^cDuring 1985-1988, the North Zone included Alcona, Alpena, Antrim, Charlevoix, Cheboygan, Clare, Emmet, Montmorency, Oscoda, Otsego, and Presque Isle counties. Roscommon county was added during 1985-1986, and Arenac, Crawford, Gladwin, Iosco, Kalkaska, Missaukee, Ogemaw, Osceola, and Roscommon counties were added in 1988. During 1989-2008, the North Zone included Alpena, Antrim, Charlevoix, Cheboygan, Emmet, Montmorency, Otsego, and Presque Isle. Alcona and Oscoda counties were added during 1991-2008.

^dThe South Zone did not exist before 1989. During 1989-2008, the South Zone included Clare, Crawford, Gladwin, Iosco, Kalkaska, Missaukee, Ogemaw, Osceola, Roscommon, and Wexford counties, and Arenac County west of Highway I-75 and north of Highway M-61. The South Zone also included Alcona and Oscoda counties during 1989-1990.

Table 2. Resident bobcat trapping season dates and seasonal bag limits in Michigan, 1985-2008.

Year	State-wide bag limit ^a	Trapping season zone						
		Upper Peninsula ^b		Drummond Island		Lower Peninsula		
		Season dates	Bag limit ^a	Season dates	Bag limit ^a	North ^c	South ^d	Bag limit ^a
1985	None	10/25-3/1	None	Closed	0	Closed	Closed	0
1986	None	10/25-3/1	None	Closed	0	Closed	Closed	0
1987	None	10/25-3/1	None	Closed	0	Closed	Closed	0
1988	None	10/25-3/1	None	Closed	0	Closed	Closed	0
1989	1	10/25-3/1	1	Closed	0	Closed	Closed	0
1990	1	10/25-3/1	1	Closed	0	Closed	Closed	0
1991	1	10/25-3/1	1	Closed	0	Closed	Closed	0
1992	1	10/25-3/1	1	Closed	0	Closed	Closed	0
1993	1	10/25-3/1	1	Closed	0	Closed	Closed	0
1994	2	10/25-3/1	2	Closed	0	Closed	Closed	0
1995	2	10/25-3/1	2	10/25-3/1	1	Closed	Closed	0
1996	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
1997	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
1998	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
1999	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
2000	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
2001	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
2002	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
2003	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	0
2004	2	10/25-3/1	2	10/25-3/1	1	12/10-20	12/10-20	1
2005	2	10/25-3/1	2	10/25-3/1	1	12/10-20	12/10-20	1
2006	2	10/25-3/1	2	10/25-3/1	1	Closed	Closed	0
2007	2	10/25-3/1	2	10/25-3/1	1	Closed	Closed	0
2008	2	10/25-3/1	2	10/25-3/1	1	12/10-20	12/10-20	1

^aThe statewide bag limit was the maximum number of bobcats that could be taken per person from all zones (hunting and trapping combined), and the bag limit for each zone was the maximum number that could be taken within a zone (hunting and trapping combined).

^bExcluded Bois Blanc Island during 1985-1988 and Drummond Island in the Upper Peninsula.

^cDuring 1985-1988, the North Zone included Alcona, Alpena, Antrim, Charlevoix, Cheboygan, Clare, Emmet, Montmorency, Oscoda, Otsego, and Presque Isle counties. Roscommon county was added during 1985-1986, and Arenac, Crawford, Gladwin, Iosco, Kalkaska, Missaukee, Ogemaw, Osceola, and Roscommon counties were added in 1988. During 1989-2008, the North Zone included Alpena, Antrim, Charlevoix, Cheboygan, Emmet, Montmorency, Otsego, and Presque Isle. Alcona and Oscoda counties were added during 1991-2008.

^dThe South Zone did not exist before 1989. During 1989-2008, the South Zone included Clare, Crawford, Gladwin, Iosco, Kalkaska, Missaukee, Ogemaw, Osceola, Roscommon, and Wexford counties, and Arenac County west of Highway I-75 and north of Highway M-61. The South Zone also included Alcona and Oscoda counties during 1989-1990.

Table 3. Estimated number of furtakers (hunters and trappers combined) pursuing bobcat and their hunting and trapping effort (days combined) in Michigan for 2007 and 2008, summarized by area.

(days combined) in Michigan for 2007 and 2008, summarized by area.										
Area	Furtakers ^a					Hunting and trapping effort				
	Year				Change (%)	Year				Change (%)
	2007		2008			2007		2008		
	No.	95 CL	No.	95 CL		Days	95 CL	Days	95 CL	
Upper Peninsula	1,333	46	1,209	45	-9*	32,691	1,986	26,741	1,707	-18*
Lower Peninsula	1,151	44	1,146	44	0	10,752	729	11,802	770	10
Unit C	593	34	569	34	-4	6,225	618	6,085	571	-2
Unit D	631	35	658	36	4	4,527	377	5,717	497	26*
Unspecified	102	15	96	15	-6	500	202	408	158	-19
Statewide	2,462	48	2,358	48	-4*	43,943	2,040	38,950	1,792	-11*

^aNumber of furtakers does not add up to statewide total because furtakers could hunt in more than one area.

*P<0.005.

Table 4. Estimated number of bobcats registered by furtakers (hunters and trappers combined) and proportion of furtakers registering at least one bobcat in Michigan during 2007 and 2008, summarized by area.

Registering at least one bobcat in Michigan during 2007 and 2008, summarized by area:										
Area	Bobcats registered ^a					Furtakers registering a bobcat				
	Year				Change (%)	Year				Difference (%)
	2007		2008			2007		2008		
	No.	95 CL	No.	95 CL		%	95 CL	%	95 CL	
Upper Peninsula	447	36	453	38	1	27	2	29	2	2
Lower Peninsula	206	21	231	23	12	18	2	20	2	2
Unit C	94	14	111	16	18	16	2	20	3	4
Unit D	112	16	120	17	7	18	2	18	2	0
Unspecified	6	4	23	8	251*	6	4	20	6	14*
Statewide	660	42	707	44	7	23	1	25	1	2

^aAlthough all furtakers harvesting a bobcat were required to present their animals at a DNRE office for registration, this survey does not present information collected from registered bobcats.

*P<0.005.

Table 5. Estimated number of furtakers (hunters and trappers combined) attempting to capture a bobcat, days spent afield (effort), bobcats registered, and proportion of furtakers that registered a bobcat during 2008 in Michigan, summarized by county.

County	Furtakers ^a		Hunting and trapping effort (days)		Bobcats registered		Furtakers that registered a bobcat	
	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Alcona	99	15	839	186	31	9	31	7
Alger	47	11	760	245	15	7	24	10
Alpena	81	13	696	160	11	5	13	6
Antrim	38	9	309	94	7	4	17	9
Arenac	13	6	91	52	2	2	13	14
Baraga	58	12	821	203	20	9	22	9
Charlevoix	36	9	337	123	2	2	5	5
Cheboygan	67	12	737	209	9	4	14	6
Chippewa	101	15	2,048	541	24	8	20	6
Clare	96	15	649	145	26	8	27	7
Crawford	72	13	524	130	3	2	4	3
Delta	150	18	2,845	497	59	14	32	6
Dickinson	105	15	2,601	559	34	11	24	6
Emmet	47	10	386	121	3	3	7	6
Gladwin	69	13	390	89	7	4	9	5
Gogebic	111	16	2,117	435	68	16	45	7
Houghton	56	11	1,395	385	15	7	20	8
Iosco	65	12	466	103	13	6	18	7
Iron	126	17	2,492	549	43	12	27	6
Kalkaska	48	11	344	95	5	3	10	7
Keweenaw	16	6	279	143	2	2	10	12
Luce	67	12	852	219	15	7	17	7
Mackinac	119	16	1,443	299	36	11	22	6
Marquette	154	19	2,676	479	29	10	15	4
Menominee	136	18	3,534	666	36	11	22	5
Missaukee	66	12	565	223	5	3	7	5
Montmorency	99	15	712	153	20	7	20	6
Ogemaw	74	13	616	145	13	5	17	6
Ontonagon	84	14	1,088	285	37	12	30	8
Osceola	79	14	509	113	16	6	21	7
Oscoda	89	14	545	123	16	6	18	6
Otsego	46	10	336	110	8	4	16	8
Presque Isle	102	15	1,189	264	5	3	5	3
Roscommon	141	18	1,003	176	23	7	16	5
Schoolcraft	85	14	1,789	506	21	7	25	7
Wexford	75	13	560	131	8	4	11	6
Unspecified	96	15	408	158	23	8	20	6

^aNumber of furtakers does not add up to statewide total because furtakers could hunt and trap in more than one county.

Table 6. Estimated number of bobcat hunters and hunting effort (days) in Michigan for 2007 and 2008, summarized by area.

Table 6. Estimated number of bobcat hunters and hunting effort (days) in Michigan for 2007 and 2008, summarized by area.										
Area	Hunters ^a					Hunting effort				
	Year				Change (%)	Year				Change (%)
	2007		2008			2007		2008		
	No.	95% CL	No.	95% CL		Days	95% CL	Days	95% CL	
Upper Peninsula	679	36	590	34	-13*	7,861	750	6,957	655	-12
Lower Peninsula	1,151	44	995	42	-14*	10,752	729	9,706	688	-10
Unit C	593	34	511	32	-14*	6,225	618	5,168	517	-17
Unit D	631	35	563	34	-11	4,527	377	4,538	416	0
Unspecified	71	13	54	11	-25	483	202	310	144	-36
Statewide	1,805	48	1,569	48	-13*	19,096	1,036	16,972	943	-11*

^aNumber of hunters does not add up to statewide total because hunters could hunt in more than one area.

*P<0.005.

Table 7. Estimated number of bobcats passed, bobcats registered by hunters, and proportion of hunters that registered at least one bobcat in Michigan for 2007 and 2008, summarized by area.

Area	Bobcats passed ^a					Bobcats registered					Hunters that registered a bobcat				
	Year					Year					Year				
	2007		2008		Change	2007		2008		Change	2007		2008		Differ- ence (%)
	No.	95% CL	No.	95% CL		No.	95% CL	No.	95% CL		%	95% CL	%	95% CL	
Upper Peninsula	450	74	524	94	17	127	18	117	19	-8	17	2	17	2	0
Lower Peninsula	1,263	183	876	113	-31*	206	21	171	19	-17	18	2	17	2	-1
Unit C	682	131	484	90	-29	94	14	90	14	-5	16	2	18	3	2
Unit D	582	127	392	61	-33*	112	16	81	13	-28*	18	2	14	2	-3
Unspecified	47	20	37	15	-20	6	4	18	7	176*	9	5	30	10	21*
Statewide	1,761	199	1,438	146	-18	340	28	306	27	-10	18	1	18	1	0

^aAn estimated 28 ± 22 bobcats were passed by hunters using calls in areas not open for hunting during 2008; these passed bobcats were not included in statewide estimate.

*P<0.005.

Table 8. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2008, summarized by county.

County	Hunters ^a		Hunting effort (days)		Bobcats passed by hunters ^b		Bobcats registered by hunters		Hunters that registered at least one bobcat	
	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Alcona	88	14	690	162	47	17	24	8	28	7
Alger	23	7	336	130	15	8	3	4	7	8
Alpena	71	13	585	147	50	18	8	4	11	5
Antrim	31	9	214	76	18	10	5	3	16	10
Arenac	11	5	91	52	10	7	0	0	0	0
Baraga	16	6	119	73	0	0	0	0	0	0
Charlevoix	34	9	256	91	36	22	2	2	5	6
Cheboygan	62	12	660	203	110	52	8	4	12	6
Chippewa	42	10	377	136	13	8	7	4	15	9
Clare	82	14	533	127	39	15	18	7	22	7
Crawford	70	13	511	129	24	10	3	2	4	3
Delta	83	14	759	169	55	18	13	6	16	6
Dickinson	56	11	738	236	23	17	6	3	10	6
Emmet	43	10	342	115	20	10	3	3	8	6
Gladwin	54	11	274	70	48	18	0	0	0	0
Gogebic	51	11	502	145	106	50	21	9	32	10
Houghton	26	8	349	171	26	20	3	4	6	7
Iosco	51	11	330	87	31	13	7	4	13	7
Iron	69	12	495	128	37	18	6	4	6	4

^aNumber of hunters does not add up to statewide total because hunters could hunt in more than one area.

^bBobcats that hunter could have harvested but chose not to take.

Table 8. (Continued) Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2008, summarized by county.

County	Hunters ^a		Hunting effort (days)		Bobcats passed by hunters ^b		Bobcats registered by hunters		Hunters that registered at least one bobcat	
	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Kalkaska	43	10	305	91	31	17	3	3	8	6
Keweenaw	8	4	63	37	10	10	2	2	22	23
Luce	35	9	255	86	11	7	2	2	5	6
Mackinac	76	13	606	158	92	46	19	8	18	6
Marquette	80	14	696	160	31	17	5	3	6	4
Menominee	83	14	1,099	267	72	33	22	8	22	7
Missaukee	61	12	348	93	20	15	5	3	8	5
Montmorency	88	14	523	124	41	14	13	5	15	6
Ogemaw	68	12	528	131	65	24	11	4	16	6
Ontonagon	38	9	254	79	7	8	8	4	20	10
Osceola	65	12	325	80	26	12	10	5	15	7
Oscoda	85	14	478	109	48	16	15	6	17	6
Otsego	43	10	298	105	22	14	8	4	17	8
Presque Isle	99	15	1,123	256	94	33	5	3	5	3
Roscommon	130	17	848	157	64	20	18	6	14	5
Schoolcraft	35	9	308	140	28	14	2	2	5	6
Wexford	65	12	445	109	34	25	7	4	10	6
Unspecified	54	11	310	144	37	15	18	7	30	10

^aNumber of hunters does not add up to statewide total because hunters could hunt in more than one area.

^bBobcats that hunter could have harvested but chose not to harvest.

Table 9. Estimated number of days of effort per bobcat registered by hunters in Michigan during 2006-2008, summarized by year and area.

Area	Year						Change between 2007 and 2008 (%)
	2006		2007		2008		
	Effort per registered bobcat	95% CL	Effort per registered bobcat	95% CL	Effort per registered bobcat	95% CL	
Upper Peninsula	53.7	2.8	61.8	3.7	59.6	4.2	-4
Lower Peninsula	47.0	3.1	52.2	3.6	57.0	4.2	9
Unit C	54.3	2.5	67.7	3.1	57.4	2.9	-15*
Unit D	39.0	1.7	40.5	2.0	56.7	2.9	40*
Unspecified	62.3	0.6	70.4	0.7	16.2	0.6	
Statewide	49.7	4.2	56.2	5.3	55.6	5.9	-1

*P<0.005. Comparison between 2007 and 2008.

Table 10. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2008, summarized by hunting method and area.

Variable and area	Hunting method							
	Dogs		Calls		Other		Unknown	
	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL
Hunters (No.) ^a								
UP	225	22	328	27	69	13	8	4
LP	458	31	545	33	48	11	24	8
Unit C	228	22	279	25	29	8	13	6
Unit D	263	24	302	26	22	7	16	6
Unspecified	33	9	20	7	2	2	2	2
Statewide	669	36	872	40	119	17	34	9
Hunting effort (Days)								
UP	2,966	474	3,100	368	784	225	108	65
LP	5,032	518	4,168	424	232	68	274	116
Unit C	2,815	415	2,065	273	137	52	152	82
Unit D	2,217	285	2,104	289	95	43	122	60
Unspecified	220	138	85	39	5	6	0	0
Statewide	8,218	726	7,353	558	1,020	235	381	133
Bobcats passed by hunters (No.)								
UP	338	79	134	33	52	39	0	0
LP	549	96	308	50	18	10	2	2
Unit C	319	80	154	32	10	8	2	2
Unit D	230	50	154	32	8	6	0	0
Unspecified	26	13	11	8	0	0	0	0
Statewide ^b	913	125	453	60	70	40	2	2
Bobcats registered by hunters (No.)								
UP	62	14	38	10	17	7	0	0
LP	96	15	63	12	8	4	3	3
Unit C	48	10	37	9	2	2	3	3
Unit D	49	10	26	7	7	4	0	0
Unspecified	13	6	5	3	0	0	0	0
Statewide	171	21	106	16	25	8	3	3
Hunters that registered at least one bobcat (%)								
UP	22	4	10	3	23	8	0	0
LP	21	3	12	2	17	8	13	11
Unit C	21	4	13	3	6	7	25	19
Unit D	18	4	9	2	29	15	0	0
Unspecified	40	13	25	15	0	0	0	0
Statewide	24	2	12	2	20	6	10	8

^aNumber of hunters does not add up to statewide total because hunters could hunt in more than one area.

Table 11. Estimated number of bobcat hunters using dogs and their hunting effort (days) in Michigan for 2007 and 2008, summarized by area.

summarized by area.

Area	Hunters using dogs ^a					Hunting effort				
	Year				Change (%)	Year				Change (%)
	2007		2008			2007		2008		
	No.	95% CL	No.	95% CL		Days	95% CL	Days	95% CL	
Upper Peninsula	263	24	225	22	-15	3,332	498	2,966	474	-11
Lower Peninsula	502	32	458	31	-9	5,604	610	5,032	518	-10
Unit C	253	23	228	22	-10	3,497	527	2,815	415	-19
Unit D	285	25	263	24	-8	2,108	283	2,217	285	5
Unspecified	41	10	33	9	-20	340	187	220	138	-35
Statewide	748	38	669	36	-11*	9,276	813	8,218	726	-11

^aNumber of hunters does not add up to statewide total because hunters could hunt in more than one area.

*P<0.005.

Table 12. Estimated number of bobcats passed, bobcats registered by hunters using dogs, and proportion of these hunters that registered at least one bobcat in Michigan for 2007 and 2008, summarized by area.

Area	Bobcats passed					Bobcats registered					Hunters that registered a bobcat				
	Year					Year					Year				
	2007		2008		Change	2007		2008		Change	2007		2008		Differ- ence (%)
	No.	95% CL	No.	95% CL		No.	95% CL	No.	95% CL		%	95% CL	%	95% CL	
Upper Peninsula	299	66	338	79	13	80	14	62	14	-23	28	4	22	4	-6
Lower Peninsula	843	172	549	96	-35*	79	14	96	15	22	16	3	21	3	5
Unit C	474	125	319	80	-33	35	9	48	10	36	14	3	21	4	7
Unit D	369	118	230	50	-38	44	10	49	10	11	15	3	18	4	3
Unspecified	41	20	26	13	-36	5	3	13	6	168	12	8	40	13	28*
Statewide	1,182	187	913	125	-23	164	21	171	21	5	20	2	24	2	3

*P<0.005.

Table 13. Estimated number of bobcat hunters using calls and their hunting effort (days) in Michigan for 2007 and 2008, summarized by area.

Area	Hunters using calls ^a					Hunting effort				
	Year				Change	Year				Change
	2007		2008			2007		2008		
	No.	95% CL	No.	95% CL		Days	95% CL	Days	95% CL	
Upper Peninsula	367	28	328	27	-11	3,751	534	3,100	368	-17
Lower Peninsula	641	35	545	33	-15*	4,636	403	4,168	424	-10
Unit C	330	26	279	25	-15	2,473	311	2,065	273	-17
Unit D	344	27	302	26	-12	2,163	237	2,104	289	-3
Unspecified	24	8	20	7	-20	119	58	85	39	-29
Statewide	1,004	42	872	40	-13*	8,505	659	7,353	558	-14

^aNumber of hunters does not add up to statewide total because hunters could hunt in more than one area.

*P<0.005.

Table 14. Estimated number of bobcats passed, bobcats registered by hunters using calls, and proportion of these hunters that registered at least one bobcat in Michigan for 2007 and 2008, summarized by area.

Area	Bobcats passed ^a					Bobcats registered					Hunters that registered a bobcat				
	Year					Year					Year				
	2007		2008		Change	2007		2008		Change	2007		2008		Differ- ence (%)
	No.	95% CL	No.	95% CL		No.	95% CL	No.	95% CL		%	95% CL	%	95% CL	
Upper Peninsula	100	25	134	33	33	24	9	38	10	55	6	2	10	3	4
Lower Peninsula	375	57	308	50	-18	105	15	63	12	-40*	16	2	12	2	-5*
Unit C	183	38	154	32	-16	45	10	37	9	-17	13	3	13	3	0
Unit D	192	37	154	32	-20	60	12	26	7	-57*	17	3	9	2	-9*
Unspecified	6	5	11	8	76	2	2	5	3	201	7	8	25	15	18
Statewide	482	62	453	60	-6	131	17	106	16	-19	13	2	12	2	-1

^aAn estimated 28 ± 22 bobcats were passed by hunters using calls in areas not open for hunting during 2008; these passed bobcats were not included in statewide estimate.

*P<0.005.

Table 15. Estimated number of bobcat trappers and their trapping effort (days) in Michigan for 2007 and 2008, summarized by area.

Area	Trappers ^a					Trapping effort				
	Year				Change (%) ^b	Year				Change (%) ^b
	2007 ^b		2008			2007 ^b		2008		
	No.	95% CL	No.	95% CL		Days	95% CL	Days	95% CL	
Upper Peninsula	850	40	731	38	-14*	24,848	1,813	19,784	1,565	-20*
Lower Peninsula	NA	NA	239	23	NA	NA	NA	2,096	319	NA
Unit C	NA	NA	100	15	NA	NA	NA	917	190	NA
Unit D	NA	NA	140	18	NA	NA	NA	1,179	257	NA
Unspecified	NA	NA	44	10	NA	NA	NA	98	65	NA
Statewide	850	40	1,001	42	18*	24,848	1,813	21,978	1,586	-12

^aNumber of trappers does not add up to statewide total because trappers could trap in more than one area.

^bNot applicable because trapping of bobcat in the LP was not permitted in 2007.

*P<0.005.

Table 16. Estimated number of bobcats captured, bobcats released alive, and bobcats registered by trappers in Michigan for 2007 and 2008, summarized by area.

Area	Bobcats captured					Bobcats released alive					Bobcats registered				
	Year				Change (%) ^a	Year				Change (%) ^a	Year				Change (%) ^a
	2007 ^a		2008			2007 ^a		2008			2007 ^a		2008		
	No.	95% CL	No.	95% CL		No.	95% CL	No.	95% CL		No.	95% CL	No.	95% CL	
Upper Peninsula	398	41	475	53	19	77	18	139	32	80*	320	32	336	34	5
Lower Peninsula	NA	NA	116	23	NA	NA	NA	55	17	NA	NA	NA	60	12	NA
Unit C	NA	NA	46	14	NA	NA	NA	24	11	NA	NA	NA	21	7	NA
Unit D	NA	NA	70	18	NA	NA	NA	31	13	NA	NA	NA	39	10	NA
Unspecified	NA	NA	5	4	NA	NA	NA	0	0	NA	NA	NA	5	4	NA
Statewide ^b	398	41	596	57	50*	77	18	195	36	152*	320	32	401	36	25*

^aNot applicable because trapping of bobcat in the LP was not permitted in 2007.

^bAn estimated 24 ± 18 bobcats were captured and released alive by trappers in areas not open to bobcat hunting (Unit E) in 2008. This estimate was not included in 2008 statewide estimates of bobcats captured and released by trappers.

*P<0.005.

Table 17. Estimated proportion of bobcat trappers that captured at least one bobcat and proportion that registered at least one bobcat in Michigan for 2007 and 2008, summarized by area.

Area	Trappers that captured a bobcat					Trappers that registered a bobcat				
	Year				Difference (%)	Year				Difference (%) ^a
	2007 ^a		2008			2007 ^a		2008		
	%	95% CL	%	95% CL		%	95% CL	%	95% CL	
Upper Peninsula	32	2	38	3	6*	29	2	34	3	5*
Lower Peninsula	NA	NA	33	5	NA	NA	NA	25	4	NA
Unit C	NA	NA	31	7	NA	NA	NA	21	6	NA
Unit D	NA	NA	35	6	NA	NA	NA	28	6	NA
Unspecified	NA	NA	7	6	NA	NA	NA	7	6	NA
Statewide	32	2	36	2	4	29	2	31	2	2

^aNot applicable because trapping of bobcat in the LP was not permitted in 2007.

*P<0.005.

Table 18. Estimated number of days of effort per bobcat registered in Michigan by trappers for the 2006-2008, summarized by year and area.^a

Area	Year						Change between 2007 and 2008 (%) ^a
	2006 ^a		2007 ^a		2008		
	Effort per registered bobcat	95% CL	Effort per registered bobcat	95% CL	Effort per registered bobcat	95% CL	
Upper Peninsula	57.7	4.3	77.6	8.2	59.2	5.5	-24*
Lower Peninsula	NA	NA	NA	NA	34.0	1.3	NA
Unit C	NA	NA	NA	NA	42.5	0.9	NA
Unit D	NA	NA	NA	NA	29.4	1.0	NA
Unspecified	NA	NA	NA	NA	19.8	0.2	NA
Statewide	57.7	4.3	77.6	8.2	55.3	5.5	-29*

^aNot applicable because trapping of bobcat in the LP was not permitted in 2006 and 2007.

*P<0.005. Comparison between 2007 and 2008.

Table 19. Estimated number of trappers, trapping effort (days), bobcats captured, bobcats released, bobcats registered, and proportion of trappers that captured and registered a bobcat in Michigan during 2008, summarized by county.

County	Trappers ^a		Trapping effort (days)		Bobcats captured by trappers		Bobcats released alive by trappers		Bobcats registered by trappers		Trappers that captured at least one bobcat		Trappers that registered at least one bobcat	
	No.	95%	No.	95%	No.	95%	No.	95%	No.	95%	%	95%	%	95%
		CL		CL		CL		CL		CL		CL		CL
Alcona	20	7	148	60	16	9	10	6	7	4	50	18	33	17
Alger	26	8	424	170	16	7	5	3	11	6	50	15	38	15
Alpena	20	7	111	44	3	3	0	0	3	3	17	13	17	13
Antrim	12	5	95	44	2	2	0	0	2	2	13	15	13	15
Arenac	2	2	0	0	2	2	0	0	2	2	100	0	100	0
Baraga	47	10	702	184	28	12	8	6	20	9	28	10	28	10
Charlevoix	3	3	82	82	0	0	0	0	0	0	0	0	0	0
Cheboygan	10	5	77	40	5	3	3	3	2	2	50	25	17	19
Chippewa	68	12	1,671	514	27	10	10	6	17	7	28	8	21	7
Clare	21	7	116	44	10	6	2	2	8	4	38	16	38	16
Crawford	3	3	13	12	0	0	0	0	0	0	0	0	0	0
Delta	78	13	2,085	461	53	16	7	6	46	12	45	9	45	9
Dickinson	54	11	1,863	497	44	20	16	14	28	10	36	10	36	10
Emmet	5	3	44	31	0	0	0	0	0	0	0	0	0	0
Gladwin	17	6	116	51	11	7	5	6	7	4	47	18	38	18
Gogebic	69	13	1,615	398	95	29	48	20	47	13	60	9	49	9
Houghton	33	9	1,047	344	18	11	7	8	11	6	30	12	30	12
Iosco	19	7	136	53	11	6	5	4	7	4	52	17	34	17
Iron	74	13	1,998	517	51	15	13	8	37	11	46	9	40	9

^aNumber of trappers does not add up to statewide total because trappers could trap in more than one county.

Table 19. (Continued) Estimated number of trappers, trapping effort (days), bobcats captured, bobcats released, bobcats registered, and proportion of trappers that captured and registered a bobcat in Michigan during 2008, summarized by county.

County	Trappers ^a		Trapping effort (days)		Bobcats captured by trappers		Bobcats released alive by trappers		Bobcats registered by trappers		Trappers that captured at least one bobcat		Trappers that registered at least one bobcat	
	No.	95%	No.	95%	No.	95%	No.	95%	No.	95%	%	95%	%	95%
		CL		CL		CL		CL		CL		CL		CL
Kalkaska	5	3	39	28	3	3	2	2	2	2	67	33	33	33
Keweenaw	8	4	215	138	0	0	0	0	0	0	0	0	0	0
Luce	38	9	596	190	13	7	0	0	13	7	25	11	25	11
Mackinac	46	10	837	253	18	8	2	2	16	7	28	10	28	10
Marquette	85	14	1,980	432	36	13	11	9	24	10	25	7	21	7
Menominee	63	12	2,435	606	16	7	2	2	15	7	21	8	18	8
Missaukee	10	5	217	201	3	3	3	3	0	0	33	23	0	0
Montmorency	23	7	189	72	8	4	2	2	7	4	36	16	29	15
Ogemaw	10	5	88	51	3	4	2	2	2	2	17	19	17	19
Ontonagon	57	12	835	263	33	12	3	3	29	11	34	10	31	10
Osceola	23	7	184	76	13	11	7	8	7	4	29	15	29	15
Oscoda	8	4	67	51	2	2	0	0	2	2	20	22	20	22
Otsego	5	3	37	27	0	0	0	0	0	0	0	0	0	0
Presque Isle	11	5	67	35	10	7	10	7	0	0	43	23	0	0
Roscommon	20	7	155	65	11	8	7	5	5	3	25	15	25	15
Schoolcraft	58	12	1,481	447	28	9	8	4	20	7	42	10	34	10
Wexford	14	6	116	50	2	2	0	0	2	2	12	13	12	13
Unspecified	44	10	98	65	5	4	0	0	5	4	7	6	7	6

^aNumber of trappers does not add up to statewide total because trappers could trap in more than one county.

Table 20. Trap type used by bobcat trappers in Michigan during 2008.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	78	2	777	39
Conibears	45	2	447	31
Other ^a	0	0	5	3

^aIncluded snares and live traps, although snares were not legal to use to capture bobcats.

Table 21. Preferred trap type of bobcat trappers in Michigan during 2008.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	47	2	466	31
Conibears	30	2	302	26
No preference	17	2	172	20
Other ^a	1	1	12	5
No answer	5	1	49	11

^aSnares were not legal to use to capture bobcats.

Appendix A. The questionnaire sent to people that obtained a bobcat harvest tag in Michigan for the 2008 bobcat hunting and trapping seasons.



BOBCAT HUNTER AND TRAPPER SURVEY

This information is requested under authority of Part 435, 1994 PA 451, M.C.L. 324.43539.



- It is important that you complete and return this questionnaire even if you did not harvest a bobcat during the 2008-09 hunting and trapping seasons (October 25, 2008, through March 1, 2009).
- Only the person this questionnaire was addressed to should answer these questions. Do not report results for another person.
- You can report online at <https://secure1.state.mi.us/wildlifesurveys/bobcat.aspx>.

PART A: Hunting Questions (Questions about trapping are on reverse side)

1. Did you hunt bobcats during the 2008-09 season?

¹ ☐ Yes ² ☐ No (Skip to Question #9)

2. How many years have you hunted bobcats? _____ Years

3. If you hunted bobcats during the 2008-09 season, please complete the following table.

HUNTING METHOD (Select hunting method used.)	COUNTY HUNTED (For each hunting method used, list the county that you hunted on separate lines.)	NUMBER OF DAYS HUNTED (Count all days hunted even if you did not have an opportunity to take a bobcat)	NUMBER OF BOBCAT REGISTERED (Count only bobcat where a seal was attached to the pelt, and the animal was returned to you.)	NUMBER OF BOBCATS NOT TAKEN (Count the number of bobcats you called within range or treed but chose <u>not</u> to harvest.)
¹ <input type="checkbox"/> Dogs ² <input type="checkbox"/> Calls ³ <input type="checkbox"/> Other				
¹ <input type="checkbox"/> Dogs ² <input type="checkbox"/> Calls ³ <input type="checkbox"/> Other				
¹ <input type="checkbox"/> Dogs ² <input type="checkbox"/> Calls ³ <input type="checkbox"/> Other				
¹ <input type="checkbox"/> Dogs ² <input type="checkbox"/> Calls ³ <input type="checkbox"/> Other				

4. On what lands did you hunt bobcats during the 2008-09 season? (You may check more than one.)

- ¹ ☐ Property owned by me or my family

² ☐ Private land, with permission
- ³ ☐ Private land open to public hunting
(For example, Commercial Forests, Hunter Access Program)

⁴ ☐ Public land (State Game Area, State or National Forest, etc.)

5. Did you hunt bobcats with dogs during the 2008-09 season?

¹ ☐ Yes ² ☐ No (Skip to Question #9)

6. Who owned the dogs that you used to hunt bobcats during the 2008-09 season? (Check one)

- ¹ ☐ Normally use dogs that I own.

² ☐ Normally use dogs owned by someone else.
- ³ ☐ Normally use a combination of my dogs and dogs owned by someone else.

7. Report the number of bobcat chases with dogs you participated in during the 2008-09 season.

_____ Chases
8. Did you hire a guide to assist with hunting bobcats at any time during the 2008-09 season?

1

☐

Yes

2

☐

No

PART B: Trapping Questions

9. Did you attempt to harvest a bobcat while trapping in the 2008-09 season?

1

☐

Yes

2

☐

No (Skip to Question #16)

10. How many years have you trapped bobcats?

_____ Years

11. If you trapped bobcats during the 2008-09 season, please complete the following table.

COUNTY TRAPPED (List each county that you trapped for bobcat.)	NUMBER OF DAYS TRAPPED	NUMBER OF BOBCAT CAUGHT AND RELEASED (Count only bobcats you released alive from your traps.)	NUMBER OF BOBCAT REGISTERED (Count only bobcat where a seal was attached to the pelt, and the animal was returned to you.)

12. On what lands did you trap bobcats during the 2008-09 season? (You may check more than one.)

1

☐

Property owned by me or my family

2

☐

Private land, with permission

3

☐

Private land open to public hunting
(For example, Commercial Forests, Hunter Access Program)

4

☐

Public land (State Game Area, State or National Forest, etc.)

13. Which capture method did you use when you attempted to harvest bobcats in the 2008-09 season? (Check all that apply.)

1

☐

Foothold traps

2

☐

Conibears

3

☐

Other (please specify _____)

14. Which capture method do you prefer to catch bobcats? (Check one.)

1

☐

Foothold traps

2

☐

Conibears

3

☐

No preference

4

☐

Other (please specify _____)

15. Did you catch any bobcats in traps that were set for another species in the 2008-09 season?

1

☐

Yes

2

☐

No

PART C: General Questions

16. Compared to the previous three years, what is the status of bobcats in the county that you prefer to hunt or trap bobcats in the 2008-09 season?

1

☐

Increasing

2

☐

Decreasing

3

☐

Stable

4

☐

Not present

5

☐

Unknown

17. Do you have any comments or suggestions about bobcat management in Michigan?